

# Health Alert: Measles in an Adopted Child

June 19, 2004

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**FROM: RICHARD C. DUNN  
DIRECTOR**

**SUBJECT: Imported Measles Case in an Adopted Child  
From China**

On June 18, 2004, the Missouri Department of Health and Senior Services (DHSS) reported an imported laboratory-confirmed case of measles in a child recently adopted from China. The child was part of a group of adoptees and their adoptive parents who returned to the United States from China on June 8, 2004.

The child with measles, who reportedly had received measles vaccine in China about 6 months ago, was infected while still in China, and was likely infectious to others from June 6, 2004 to June 14, 2004. The child arrived in the Kansas City area on June 9, 2004. Following arrival, the child received medical evaluation, and once measles was suspected, the child was isolated and hospitalized.

Individuals known to have had contact with the child are being contacted by public health officials, told that they may have been exposed to measles, and that if symptoms develop they should obtain medical evaluation, being sure to contact their provider before presenting in order to ensure that proper infection control measures are taken.

In addition to the child with measles, another adopted child (from the same group) and the adoptive parents returned to their home in the St. Louis area. This second child has now developed symptoms including cough and runny nose, and is currently being evaluated. No diagnosis is available at this time.

Missouri medical providers should be aware of the occurrence of this measles case, who could potentially have exposed other persons to the infection before and after arriving in the state. Health care providers should not rule out the possibility of measles based on a history of past measles immunization, especially if the vaccine was provided outside the United States.

If any patient presents with signs/symptoms suggestive of measles, he/she should be immediately isolated and appropriately evaluated. This evaluation must include obtaining a serum specimen for measles serological testing. The specimen, or a portion of the specimen, should be sent to the Missouri State Public Health Laboratory for testing. Any individual suspected of having measles should be immediately reported to the local public health agency, or to the Missouri Department of Health & Senior Services at 800-392-0272 (24 hours a day - 7 days a week).

The next page provides a summary of the clinical features of measles, including links to Internet sites containing additional information.

Questions should be directed to the local public health agency, or to DHSS's Disease Investigation Unit at 573/751-6113, or 800-392-0272 (24 hours a day - 7 days a week).

## Measles: Summary of Clinical Features

The **incubation period** of measles, from exposure to prodrome averages 10-12 days. From exposure to rash onset averages 14 days (range, 7-18 days, can be up to 21 days on rare occasions).

The **prodrome** lasts 2-4 days (range 1-7 days). It is characterized by fever, which increases in stepwise fashion, often peaking as high as 103°-105°F. This is followed by the onset of cough, coryza (runny nose), and/or conjunctivitis.

Koplik's spots, a rash (enanthem) present on mucous membranes, is considered to be pathognomonic for measles. It occurs 1-2 days before the rash to 1-2 days after the rash, and appears as punctate blue-white spots on the bright red background of the buccal mucosa.

The measles **rash** is a maculopapular eruption that usually lasts 5-6 days. It begins at the hairline, then involves the face and upper neck. During the next 3 days, the rash gradually proceeds downward and outward, reaching the hands and feet. The maculopapular lesions are generally discrete, but may become confluent, particularly on the upper body. Initially, lesions blanch with fingertip pressure. By 3-4 days, most do not blanch with pressure. Fine desquamation occurs over more severely involved areas. The rash fades in the same order that it appears, from head to extremities.

Other symptoms of measles include anorexia, diarrhea, especially in infants, and generalized lymphadenopathy.

Approximately 30% of reported measles cases have one or more complications. Some of these complications can be severe, and potentially fatal. Death from measles has been reported in approximately 1-2 per 1,000 reported cases in the United States in recent years. As with other complications of measles, the risk of death is higher among young children and adults. Pneumonia accounts for about 60% of deaths. The most common causes of death are pneumonia in children and acute encephalitis in adults.

Measles transmission is primarily person to person via large respiratory droplets. Airborne transmission via aerosolized droplet nuclei has been documented in closed areas (e.g., office examination room) for up to 2 hours after a person with measles occupied the area.

Measles is highly communicable, with >90% secondary attack rates among susceptible persons. Measles may be transmitted from 4 days prior to 4 days after rash onset. Maximum communicability occurs from onset of prodrome through the first 3-4 days of rash.

Additional information on complications of measles, as well as on other aspects of the disease, is available at <http://www.cdc.gov/nip/publications/pink/meas.pdf> (PDF format) or <http://www.cdc.gov/nip/publications/pink/meas.rtf> (Text format).

Pictures of measles rash are available at <http://phil.cdc.gov/phil/search.asp>. (After clicking on Continue, enter "measles" as the search term and click on Search. Note that there are 7 pages associated with the measles site; at the bottom of each page, click on the appropriate page number to move to another page.)

Source: CDC. *Epidemiology & Prevention of Vaccine-Preventable Diseases* ("The Pink Book"), 8th Edition. February 2004.